Studies in History and Philosophy of Science 1990

Volume 21

List of Contents and Author Index

PERGAMON PRESS Oxford · New York
Beijing · Frankfurt · São Paulo · Seoul · Sydney · Tokyo

Studies in History and Philosophy of Science

Editor
Nicholas Jardine
Reader in History and Philosophy of Science
University of Cambridge, U.K.

Senior Consulting Editor
Gerd Buchdahl
Emeritus Reader in History and Philosophy of Science
University of Cambridge, U.K.

Associate Editor
Andrew Cunningham
Wellcome Lecturer in the History of Medicine
University of Cambridge, U.K.

Editorial Assistant
Perry Williams

Consulting Editors
Joseph Agassi, Boston University, Boston, Mass., U.S.A.
I. Bernard Cohen, Harvard University, Cambridge, Mass., U.S.A.
Pierre Costabel, Académie Intern. d'Histoire des Sciences, Paris, France.
Paul Feyerabend, University of California, Berkeley, Ca., U.S.A.
W. A. Gabbey, The Queen's University of Belfast, Belfast, U.K.
L. Geymonat, Milan, Italy.
Adolf Grünbaum, Pittsburgh University, Pittsburgh, Pa., U.S.A.
Rom Harré, Oxford University, Oxford, U.K.
Mary Hesse, Cambridge University, Cambridge, U.K.
Erwin Hiebert, Harvard University, Cambridge, Mass., U.S.A.
Max Jammer, Bar Ilan University, Israel.
Thomas S. Kuhn, MIT, Cambridge, Mass., U.S.A.
Lawrence L. Laudan, University of Hawaii, Honolulu, HI, U.S.A.
J. Ted McGuire, Pittsburgh University, Pittsburgh, Pa., U.S.A.
Ernan McMullin, University of Notre Dame, Ind., U.S.A.
Jürgen Mittelstrass, University of Konstanz, Konstanz, F.R.G.
John Murdoch, Harvard University, Cambridge, Mass., U.S.A.
John Passmore, Australian National University, Canberra, Australia.
Heinz Post, King's College, University of London, London, U.K.
M. L. G. Redhead, Cambridge University, Cambridge, U.K.
A. I. Sabra, Harvard University, Cambridge, Mass., U.S.A.
D. Shapere, Harvard University, Cambridge, Mass., U.S.A.
Stephen Toulmin, Northwestern University, Ill., U.S.A.
L. Pearce Williams, Cornell University, Ithaca, N.Y., U.S.A.
John W. Yolton, Piscataway, N.J., U.S.A.

Publishing Offices
Pergamon Press plc, Headington Hill Hall, Oxford OX3 0BW, U.K.
Pergamon Press Inc., Maxwell House, Fairview Park, Elmsford, NY 10523, U.S.A.
Advertising Office
Pergamon Press plc, Headington Hill Hall, Oxford OX3 0BW, U.K.

Published quarterly.

Microform and Back Issues
Back issues of all previously published volumes, in both hard copy and on microform, are available direct from Pergamon Press offices.

Subscription rates 1991
Annual institutional subscription rate (1991) DM 380.00 (includes postage and insurance). Two-year institutional rate (1991/92) DM 722.00. Personal subscription rate for those whose library subscribes at the regular rate (1991) is available on request. Prices are subject to change without notice. Subscription enquiries from customers in North America should be sent to: Pergamon Press Inc., Maxwell House, Fairview Park, Elmsford, NY 10523, U.S.A., and for the remainder of the world to: Pergamon Press plc, Headington Hill Hall, Oxford OX3 0BW, U.K.

Copyright © 1990 Pergamon Press plc

It is a condition of publication that manuscripts submitted to this journal have not been published and will not be simultaneously submitted or published elsewhere. By submitting a manuscript, the authors agree that the copyright for their article is transferred to the publisher if and when the article is accepted for publication. However, assignment of copyright is not required from authors who work for organizations which do not permit such assignment. The copyright covers the exclusive rights to reproduce and distribute the article, including reprints, photographic reproductions, microform or any other reproductions of similar nature and translations. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means: electronic, electrostatic, magnetic tape, mechanical, photocopying, recording or otherwise, without permission in writing from the copyright holder.

Photocopying Information for Users in the U.S.A. The Item-Fee Code for this publication indicates that authorization to photocopy items for internal or personal use is granted by the copyright holder for libraries and other users registered with the Copyright Clearance Center (CCC) Transactional Reporting Service provided the stated fee for copying beyond that permitted by Section 107 or 108 of the United States Copyright Law is paid. The appropriate remittance of $3.00 per copy per article is paid directly to the Copyright Clearance Center Inc., 27 Congress Street, Salem, MA 01970.

♾™ The paper used in this publication meets the minimum requirements of the American National Standard for Information Sciences—Permanence of Paper for Printed Library Materials, ANSI Z39, 48–1984.

Permission for other use. The copyright owner's consent does not extend to copying for general distribution, for promotion, for creating new works, or for resale. Specific written permission must be obtained from the publisher for such copying.

The Item-fee Code for this publication is: 0039–3681/90 $3.00 + 0.00.

Contents

Number 1 March

ANTONI MALET — 1 Keplerian Illusions: Geometrical Pictures *vs* Optical Images in Kepler's Visual Theory

S. P. FULLINWIDER — 41 Hermann von Helmholtz: The Problem of Kantian Influence

L. A. WHITT — 57 Atoms or Affinities? The Ambivalent Reception of Daltonian Theory

RUTH FARWELL and CHRISTOPHER KNEE — 91 The End of the Absolute: A Nineteenth-Century Contribution to General Relativity

MARK RISJORD — 123 The Sensible Foundation for Mathematics: A Defense of Kant's View

Essay Reviews

BRUNO LATOUR — 145 Postmodern? No, Simply *A*modern! Steps Towards an Anthropology of Science

COLIN HOWSON — 173 The Poverty of Historicism

Announcements

181 Technological Development and Science in the 19th and 20th Centuries

182 Philosophical Problems in Evolutionary Biology

NUMBER 2 June

MARIO BIAGIOLI	183	The Anthropology of Incommensurability
HAROLD I. BROWN	211	Prospective Realism
CRAIG G. FRASER	243	Lagrange's Analytical Mathematics, its Cartesian Origins and Reception in Comte's Positive Philosophy
JOHN D. COLLIER	257	Two Faces of Maxwell's Demon Reveal the Nature of Irreversibility
DAVID TOPPER	269	Newton on the Number of Colours in the Spectrum
BRYSON BROWN	281	How to be Realistic About Inconsistency in Science
Discussions		
HARVEY SIEGEL	295	Laudan's Normative Naturalism
LARRY LAUDAN	315	Aim-less Epistemology?
Essay Reviews		
A. PÉREZ-RAMOS	323	And Justify the Ways of God to Men
ALAN G. GROSS	341	An English Professor Looks at the Scientific Article

Number 3 September

JOHN EARMAN	351	Bayes' Bayesianism
MARINA FRASCA SPADA	371	Some Features of Hume's Conception of Space
ISKENDER GÖKALP	413	The Interrelating of Scientific Fields: The Case of Turbulence and Combustion
CRAIG DILWORTH	431	Empiricism vs. Realism: High Points in the Debate During the Past 150 Years
HENK VAN DEN BELT and BART GREMMEN	463	Specificity in the Era of Koch and Ehrlich: a Generalized Interpretation of Ludwik Fleck's 'Serological' Thought Style
PAUL HOYNINGEN-HUENE	481	Kuhn's Conception of Incommensurability
W. A. SUCHTING	493	Hegel and the Humean Problem of Induction
Essay Reviews		
PAULA FINDLEN	511	Empty Signs? Reading the Book of Nature in Renaissance Science
IWAN RHYS MORUS	519	Industrious People: Biography and Nineteenth Century Physics
	527	Books Received

Number 4 December

TIM MAUDLIN	531	Substances and Space-Time: What Aristotle would have said to Einstein
MARA BELLER	563	Born's Probabilistic Interpretation: A Case Study of 'Concepts in Flux'
CHRISTOPHER RAY	589	The Cosmological Constant: Einstein's Greatest Mistake?
A. C. CROMBIE	605	Expectation, Modelling and Assent in the History of Optics: Part I. Alhazen and the Medieval Tradition
BRIAN S. BAIGRIE	633	The Justification of Kepler's Ellipse
Discussions		
XIANG CHEN	665	Young and Lloyd on the Particle Theory of Light: A Response to Achinstein
PETER ACHINSTEIN	677	Light Problems: Reply to Chen
Essay Review		
MICHAEL SHARRATT	685	Condemnation of Galileo
Announcements	691	La société industrielle et ses musées: demande sociale et choix politiques (Industrial Society and its Museums: Social Aspirations and Cultural Politics) (1890–1990)
	691	Forum for History of Human Science